



## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/050709

## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:

- ☐ international search (Rule 12.3 and 23.1(b))  
☐ publication of the international application (Rule 12.4)  
☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☐ the international application as originally filed/furnished

☒ the description:

pages 1, 2, 4-14 as originally filed/furnished

pages\* 3, 3A received by this Authority on 18.01.2005 with letter of 17.01.2005

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☒ the claims:

nos. \_\_\_\_\_ as originally filed/furnished

nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19

nos.\* 1-4 received by this Authority on 18.01.2005 with letter of 17.01.2005

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☒ the drawings:

sheets 1/5-5/5 as originally filed/furnished

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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**Box No. V** Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

## 1. Statement

Novelty (N)	Claims	<u>1-4</u>	YES
	Claims		NO
Inventive step (IS)	Claims	<u>1-4</u>	YES
	Claims		NO
Industrial applicability (IA)	Claims	<u>1-4</u>	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

This report makes reference to the following document:

D1: US-B1-6 345 076 (GERSTACKER WOLFGANG ET AL) 5  
February 2002 (2002-02-05)

V.1 D1 is considered to be the prior art closest to the subject matter of claim 1. D1 discloses (the references in parentheses are to D1): a

method of estimating data units transmitted in a radio block via a radio channel (column 3, lines 25-29), in which method

- based on the transmitted data units, a signal sequence is received by a receiving station (column 3, line 66, "received symbols"),
- the components of the received signal sequence are assigned to at least a first and a second signal block in the temporal order in which they are received (column 3, lines 66-67, "at least two symbol blocks") and are processed block by block (column 4, line 3, "symbol block by symbol block"), wherein the signal blocks overlap in such a way that that

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

- at least one component of the received signal sequence belongs to both signal blocks (column 4, line 1, "symbol blocks overlapping by at least one symbol"),
- and estimated values for the transmitted data units are determined using the components of both signal blocks, the signal blocks overlapping in such a way that an estimated value is determined for at least one transmitted data unit using both signal blocks (column 4, lines 1-3, "forms symbol blocks overlapping by at least one symbol and forms the estimates for the transmitted symbols symbol block by symbol block").

Thus the subject matter of claim 1 differs from the known method in that, after the two estimated values have been determined, only the estimated value for the at least one transmitted data unit determined using one of the two signal blocks is used.

The subject matter of claim 1 is therefore novel (PCT Article 33(2)).

- V.2 The problem to be solved by the present inventive can therefore be regarded as that of achieving better estimation for the first and the last transmitted data units (see the description, page 4, lines 13-23 and page 11, line 29 - page 12, line 6).

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
V.3	<p>The solution to this problem as proposed in claim 1 of the present application involves an inventive step for the following reasons (PCT Article 33(3)): none of the documents cited in the search report suggests improving the estimation of transmitted data units by using overlapping signal blocks, wherein, after two estimated values have been determined, only the estimated value for the at least one transmitted data unit determined using one of the two signal blocks is used</p>
V.4	<p>The same argument applies accordingly to independent claim 4. The subject matter of claim 4 is therefore also novel and involves an inventive step.</p>
V.5	<p>Claims 2 and 3 are dependent on claim 1 and therefore also meet the PCT requirements for novelty and inventive step.</p>